2.0 PURPOSE OF AND NEED FOR ACTION

The project is needed to address the existing traffic congestion within the City of Port St. Lucie (City) across the North Fork St. Lucie River (NFSLR) and to prevent severe congestion in the future. The primary purpose of the project is to alleviate substantial traffic capacity deficiencies across the existing bridges while accommodating future growth.

Why is the project needed?
The Crosstown Parkway Extension project is needed to address the severe traffic congestion within the City of Port St. Lucie. In particular, the two existing bridges over the North Fork St. Lucie River already exceed their capacity and they operate below acceptable levels at critical times of the day. If this is not addressed, the level of traffic congestion will only worsen as the population grows over the next few decades, as predicted.

Specifically, the project would provide relief to the two existing crossings of the NFSLR at Port St. Lucie Boulevard and Prima Vista Boulevard. These bridges provide a vital link between the communities west and east of the river. They are also the only means of east-west emergency evacuation of residents east of the NFSLR. These transportation deficiencies and associated traffic congestion are primarily a result of the substantial population growth that has occurred in the City since the early 1990s. It is projected that this growth will continue through the year 2040 resulting in further capacity deficiencies.

The project is needed because currently, the existing NFSLR bridges are experiencing substantial traffic congestion and will not be able to meet the projected travel demand across the NFSLR in the future. The Florida Department of Transportation (FDOT) has developed generalized values (service volume thresholds) for roadways that indicate when a roadway is operating at an unacceptable Level of Service (LOS). If the daily traffic on a roadway is higher than the generalized volumes, this indicates that a roadway has congestion during the peak hours (morning and afternoon rush hours). Based on a comparison of daily volumes along the bridges to the generalized service volume thresholds contained in the FDOT Quality/Level of Service Handbook, the existing bridges would be considered to be operating at LOS F. This condition creates significant traffic congestion along area roadways, threatening the safety and long-term viability of these corridors.

What is Level of Service (LOS)?
LOS is a quality measure describing the operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. The Highway Capacity Manual (HCM) defines LOS for urban streets by the average travel speed for through vehicles. The HCM divides LOS into six letter grades, "A" through "F", with "A" being the best and "F" being the worst. Table 2.1 provides a description of the characteristics of each LOS grade designation.

Based on the generalized service volume thresholds, the existing bridges have a combined maximum service volume (referred to in this document as daily capacity) of 89,200 daily vehicles (53,500 along Port St. Lucie Boulevard and 35,700 along Prima Vista Boulevard). The combined daily volume in 2008 across the two existing bridges was 104,680 vehicles (66,330 along Port St. Lucie Boulevard and 38,350 along Prima Vista Boulevard). This combined volume is more than 17 percent above the capacity in 2008.

Table 2.1 Level of Service (LOS) Grade Designation Characteristics

LOS	Description
A	Describes primarily free-flow operations at average travel speeds, usually about 90 percent of the Free-Flow Speed (FFS) for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	Describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the FFS for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.
C	Describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the FFS for the street class.
D	Borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of FFS.
E	Characterized by significant delays and average travel speeds of 33 percent or less of the FFS. Such operations are caused by a combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.
F	Characterized by urban street flow at extremely low speeds, typically 25 to 33 percent of the FFS. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

The two existing crossings are currently operating at a failing LOS F based on a comparison of daily volumes to the generalized FDOT daily thresholds. Analysis based on daily volumes is a standard technique used in transportation planning. LOS analysis based on daily traffic volume is sufficient to identify when there is a traffic problem, and is useful when assessing the potential impacts resulting from alternative roadway solutions. Daily LOS analysis was used as part of the Long Range Transportation Plan assessment and for the corridor analysis of this project. Daily LOS analysis was also used throughout the rest of the study for ease of comparison. However, once the number of alternatives had been screened, detailed operational analyses were also conducted as discussed in later sections.

Detailed peak-hour operational analyses result in LOS letter grades, but are based on different measures of effectiveness than simply the number of vehicles compared to a threshold. The LOS along an urban roadway is controlled by the signalized intersections along its length. Therefore detailed peak-hour LOS relates to intersection delay and the travel time along a section of roadway. As such, the results from detailed analyses cannot be compared directly with the results from analyses based on daily traffic volume. The results of a detailed peak-hour analysis help to identify what roadway elements are breaking down and help discern among subtle differences within an LOS grade when comparing among alternatives.

As detailed in the *Crosstown Parkway Extension Corridor Alternatives Report – Corridor Report Part II of II* (June 2008) and the *Design Traffic Technical Memorandum* (DTTM) for this study, and based upon 2034 and 2037 design year traffic projections from those studies respectively, there is a high degree of projected traffic congestion forecast in the future years which cannot be alleviated by localized intersection improvements or improvements to the existing bridges. These studies concluded that, even if both bridges were widened, the demand to cross the NFSLR would still exceed the capacity and the improved bridges would still constrain the ability of the roadway network to process transportation demand across the NFSLR. Therefore, a third east-west crossing of the NFSLR is essential to addressing the traffic deficiencies in the City.

To address this need, a new 6-lane divided highway is proposed from the existing Crosstown Parkway at Manth Lane to U.S. 1 (**Figures 1.1** and **1.2**).

To meet the project purpose, an alternative should, at a minimum:

- Be consistent with local government comprehensive and long range goals and plans;
- Be consistent with the National Environmental Policy Act (NEPA) and other pertinent laws;
- Improve system performance on the two existing NFSLR crossings and maintain or improve existing intersection efficiency;
- Provide safe and efficient mobility;
- Be safe in terms of signal spacing and signal operations; and
- Provide additional traffic capacity to meet projected growth and travel demand.

2.1 Area-Wide Needs

2.1.1 System Linkage

The extensive growth within the City has resulted in a marked need for both area-wide roadway capacity improvements and improved system-wide roadway linkage. Much of the residential growth in the City is situated west of the NFSLR while the bulk of commercial development and community services is located east of the NFSLR along the U.S. 1 corridor. Because there are only two existing NFSLR crossing locations located approximately four miles apart, and because those crossings are not able to meet the existing and projected travel demand, transportation linkage between the residential communities west of the NFSLR and the commercial development east of the NFSLR is inadequate.

In response to the strong need for area-wide roadway capacity improvements and improved system-wide roadway linkage, and in accordance with the City of Port St. Lucie Comprehensive Plan (as amended in 2003) and the 2035 Regional Long Range Transportation Plan (2035 RLRTP) adopted jointly by the Martin Metropolitan Planning Organization and the St. Lucie Transportation Planning Organizations (February 2011), the City has planned and initiated a number of transportation improvement projects. **Figure 2.1** depicts those developments and roadway improvements that have been planned, are under construction, or have been completed within the City. Among those projects that have been completed is the Crosstown Parkway. The 6-lane Crosstown Parkway is a controlled access express roadway that extends from west of I-95 to Manth Lane and includes a new interchange with I-95. Although Crosstown Parkway and the new I-95 Interchange do much to relieve the City's transportation deficiencies and provide enhanced system linkage between local and regional travel, the Crosstown Parkway, alone, does not remedy the transportation deficiencies caused by the capacity constraints of the existing NFSLR crossings and the lack of adequate linkage between the east and west sides of the NFSLR.

The project will connect the existing Crosstown Parkway west of the NFSLR to U.S. 1 east of the NFSLR, resulting in improvements to the system-wide traffic patterns between the City's commercial core and the central and western residential communities. This improved system linkage will provide the east-west mobility needed for economic growth, improved emergency response, and improved hurricane evacuation of the coastal communities as shown in **Figure 2.2**. The proposed project will not only improve east-west system linkage but also result in improved north-south system linkage by better accommodating vehicles turning onto connecting cross streets.

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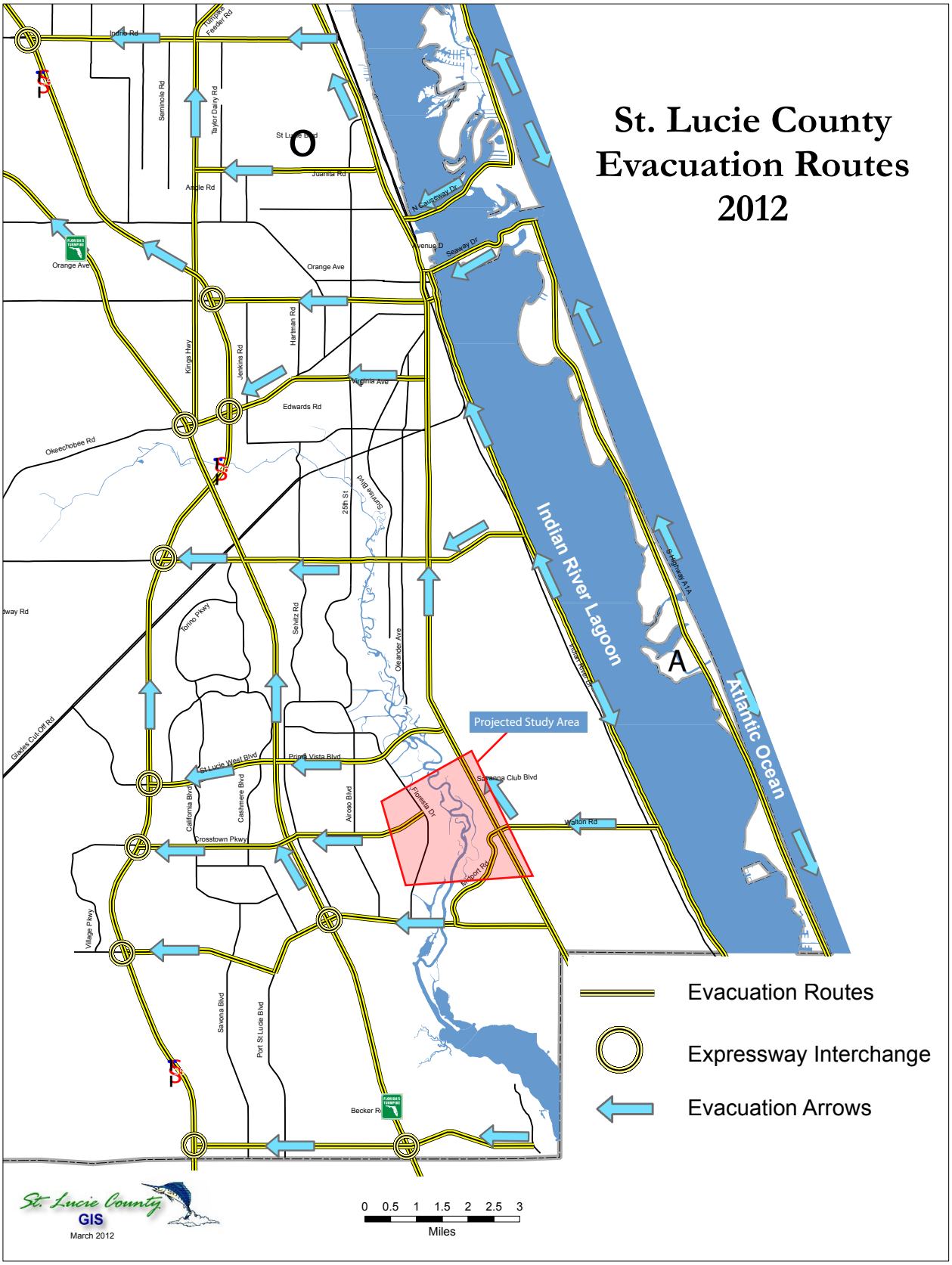
Roadways and Approved Developments

Figure 2.1



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St. Lucie County Evacuation Routes

Figure 2.2

2.1.2 Transportation Demands

The project is needed to meet both the current and future transportation demands. The need to provide improvements to meet the City's transportation demands was acknowledged by local and regional planning organizations as evidenced by the project's inclusion in, and consistency with, the local policies included in the City of Port St. Lucie Comprehensive Plan (City Comprehensive Plan) and the 2030 and 2035 RLRTPs [Section 2.1.3 (Federal, State, or Local Government Authority)].

The area-wide transportation demands are directly related to the County's and City's high rate of population and development growth. As documented in the 2035 RLRTP, the County has experienced rapid population growth over the last 50 years. Rapid growth has occurred in the City as well. For example, according to the *United States Census Bureau News* (June 30, 2005), the City had the nation's fastest growth rate among large cities (100,000 or more population) between July 1, 2003 and July 1, 2004. In 2005, the City remained in the top five nationally in terms of growth. As shown in **Figure 2.3**, the City's population grew from 100,000 in 2003 to 125,000 in 2005, an increase of 25 percent. In 2008, the City's population totaled 157,000, an increase of 25.6 percent between 2005 and 2008. The 2010 census data indicate continued growth consistent with the projected trends (**Figure 2.3**).

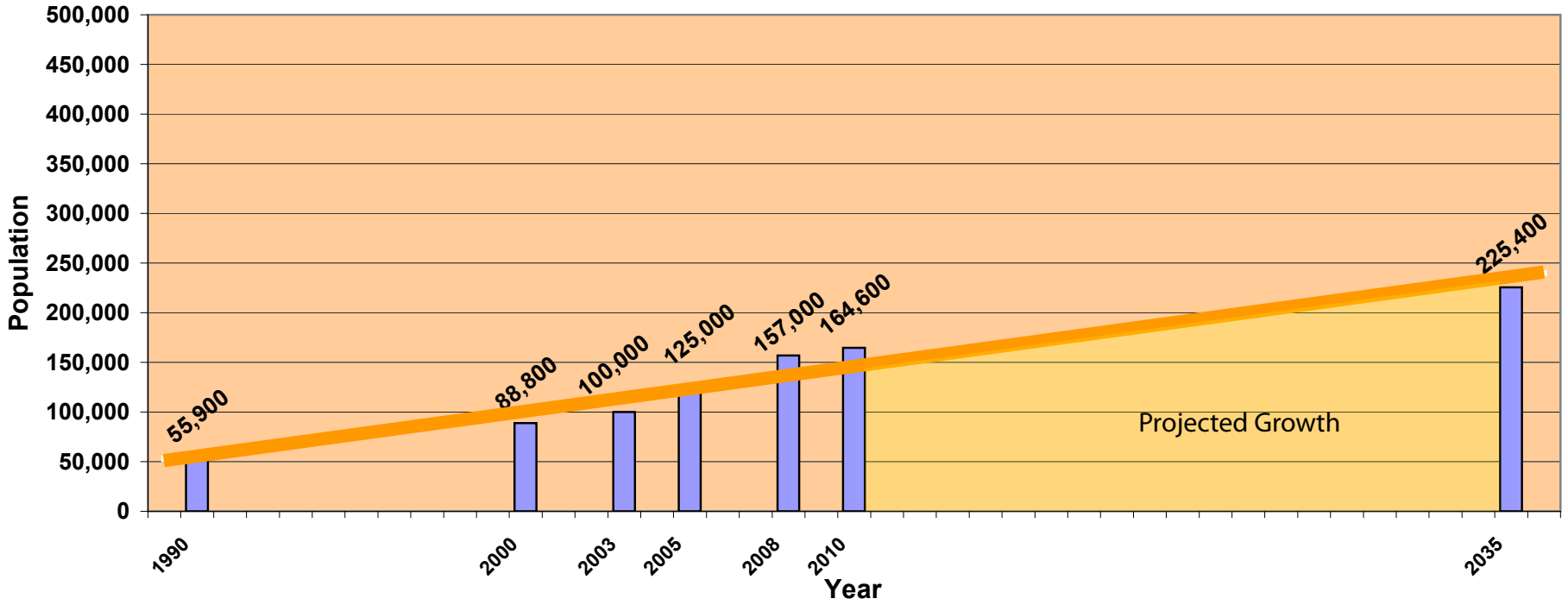
While growth has slowed because of the 2008/2009 economic recession, overall, a trend of increased growth is projected to continue for the next two decades. By 2035, the City's population is projected to reach 225,400[1]. As the City's population increases, so will the demand on its already stressed transportation network.

The FDOT 2011 *Trends and Conditions* report notes that the University of Florida Bureau of Economic and Business Research (BEBR) predicts that St. Lucie County (County) will have one of the sixteen highest growth rates in Florida through 2040 (**Figure 2.4**). Upon closer review of the 2011 county level data, St. Lucie County is predicted to be the fifth fastest growing county in Florida. This will result in further demands placed upon the City's transportation system. The proposed project is, therefore, needed to meet both the current and future transportation demands.

2.1.3 Federal, State, or Local Government Authority

Funding from a combination of local, state, and federal sources has been programmed for subsequent project phases. Local funding includes dollars from the bond that voters approved in 2005. Documentation of the funding for this project can be found in the St. Lucie County Transportation Planning Organization (TPO) Transportation Improvement Program (TIP) and the State Transportation Improvement Program (STIP). The following project phases and funding are programmed: Preliminary Engineering - $3,290,572 in Year 2013 and $4,920,799 in Year 2014; Right of Way – $606,699 in Year 2013, $217,780 in Year 2014 and $17,216,700 in Year 2015; and Construction – $88,498,631 in Year 2014 and $18,747,976 in Year 2016 (scheduled to be advanced to Year 2014 in the Tentative Work Program). The project is consistent with (and included in) the adopted 2035 RLRTP for the St. Lucie County TPO, the adopted TIP, the City's Local Government Comprehensive Plan, and the STIP. A more detailed breakdown of the funding sources is included in Section 1.11.1 (Project Funding) of this EIS. The Planning Consistency Form along with relevant pages from the adopted TPO TIP, STIP and TPO RLRTP is provided in **Appendix K**.

[1] Population is based on the 2035 Regional Long Range Transportation Plan.



Sources: City of Port St. Lucie, 2010 Census, 2035 Regional Long Range Transportation Plan (February2011)

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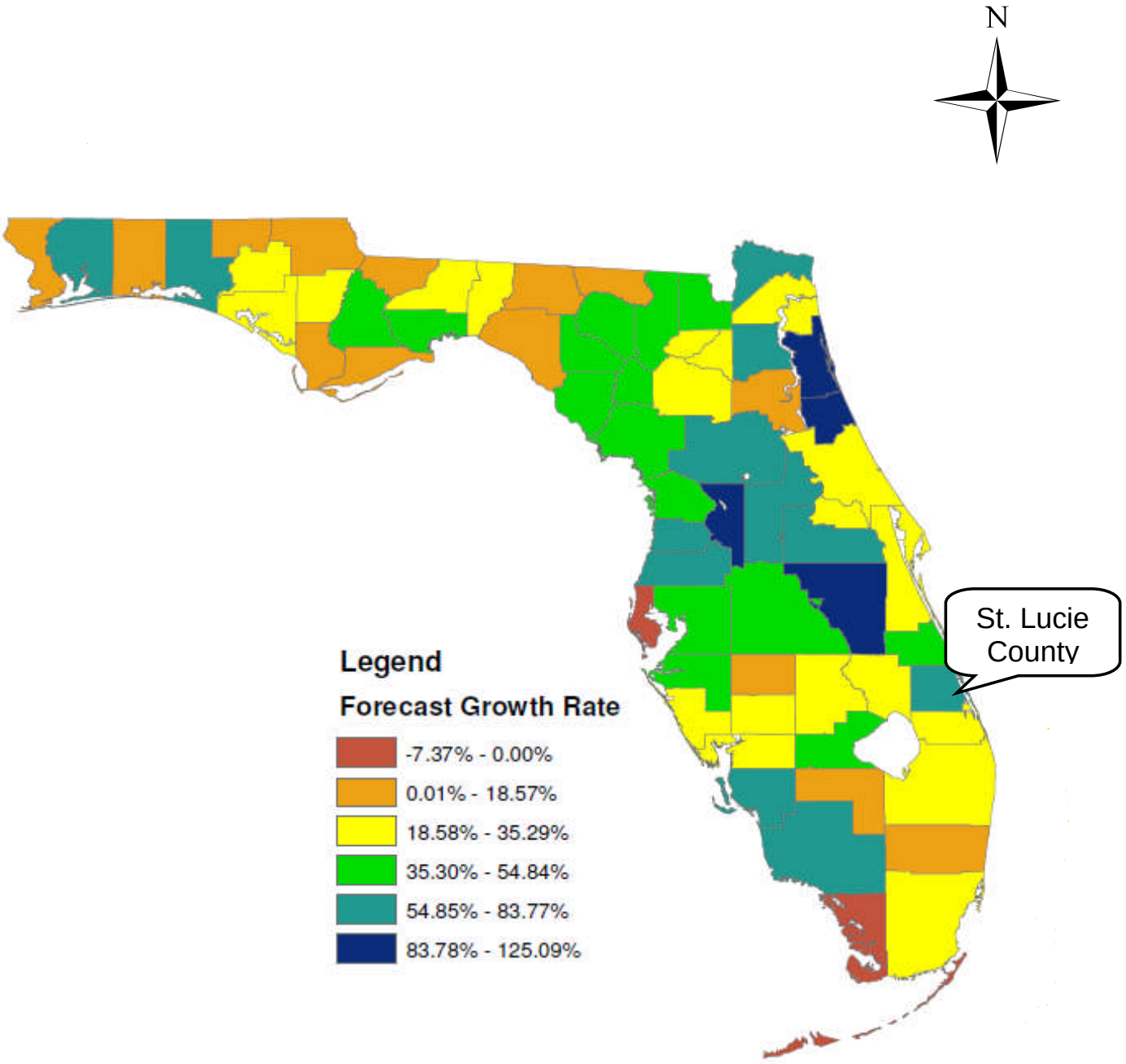
City of Port St. Lucie Population Growth

Figure 2.3



Source: U.S. Department of Commerce, Bureau of the Census, University of Florida, Bureau of Economic and Business Research, Florida Department of Transprtation (2011).

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2011 St. Lucie County Trends and Conditions

Figure 2.4

The need for the proposed project has long been recognized by City, County, and State authorities as evidenced by the project's inclusion in the following documents:

- The City of Port St. Lucie Comprehensive Plan (adopted 1998 and amended in 2003);
- The St. Lucie County Metropolitan Planning Organization's (MPO) 2025 Long Range Transportation Plan (adopted in 2001);
- The 2030 RLRTP, Martin and St. Lucie Counties Metropolitan Planning Organizations, updated September 2008;
- The 2035 RLRTP, Martin and St. Lucie Counties, updated February 2011;
- The 2002 Martin and St. Lucie Counties Regional Land Use Study; and
- The 2004 Urban Land Institute - Port St. Lucie, Florida Panel Report.

In addition, the project has been acknowledged through the involvement and participation of federal, state and local government authorities, and the public as shown in the following history of events:

- In 1980, the City identified the need in it's Comprehensive Plan for an additional transportation corridor to cross the NFSLR in addition to the existing crossings at the Prima Vista Boulevard Bridge and the Port St. Lucie Boulevard Bridge;
- In 1990, the City conducted studies entitled, *Draft Environmental Assessment – Proposed New Crossing Over the North Fork of the St. Lucie River* and *Engineering Report – Proposed New Crossing Over the North Fork of the St. Lucie River* to determine and document the project need and evaluate alignment locations;
- In 1998, the MPO placed the corridor project on its priority list, moving $1.1 million in funds from another roadway project (Gatlin Boulevard);
- In 1999, the City adopted a resolution supporting the need for the corridor and authorizing the City to secure an easement over the NFSLR from the Trustees of the Internal Improvement Trust Fund of Florida (**Appendix E**);
- In 2000, the City adopted a resolution objecting to the Florida Department of Environmental Protection linking the Crosstown Parkway Extension project (West Virginia Corridor Project) and the St. Lucie County Expressway and Bridge Authority's proposed bridge to Hutchinson Island (**Appendix E**). The need for the bridge to Hutchinson Island was analyzed during the development of the 2030 Regional Long Range Transportation Plan, but was eliminated. It was not included in the adopted Cost Feasible RLRTP. The bridge to Hutchinson Island is not reflected in either the City Comprehensive Plan or the RLRTP;
- In 2003, the Project Development and Environment (PD&E) Study was initiated for the proposed third east-west river crossing;
- In June 2005, the citizens of the City voted in favor (89 percent) of a bond to provide funds for the Crosstown Parkway, including a new third east-west river crossing;
- From August to October 2006, regulatory and review agencies commented on the project purpose and need and effects through the Environmental Screening Tool (EST) during the Programming Screen of the Efficient Transportation Decision Making (ETDM) process (ETDM No. 8247);
- In June 2008, two reports entitled *Analysis of Potential River Crossing Corridors (to Reduce Traffic Congestion in the City of Port St. Lucie) – Corridor Report Part I of II* and *Crosstown Parkway Corridor Extension Alternatives Report – Corridor Report Part II of II* were made available for agency and public

review via the ETDM public website, public and agency kickoff meetings, scoping meeting, and a public workshop;

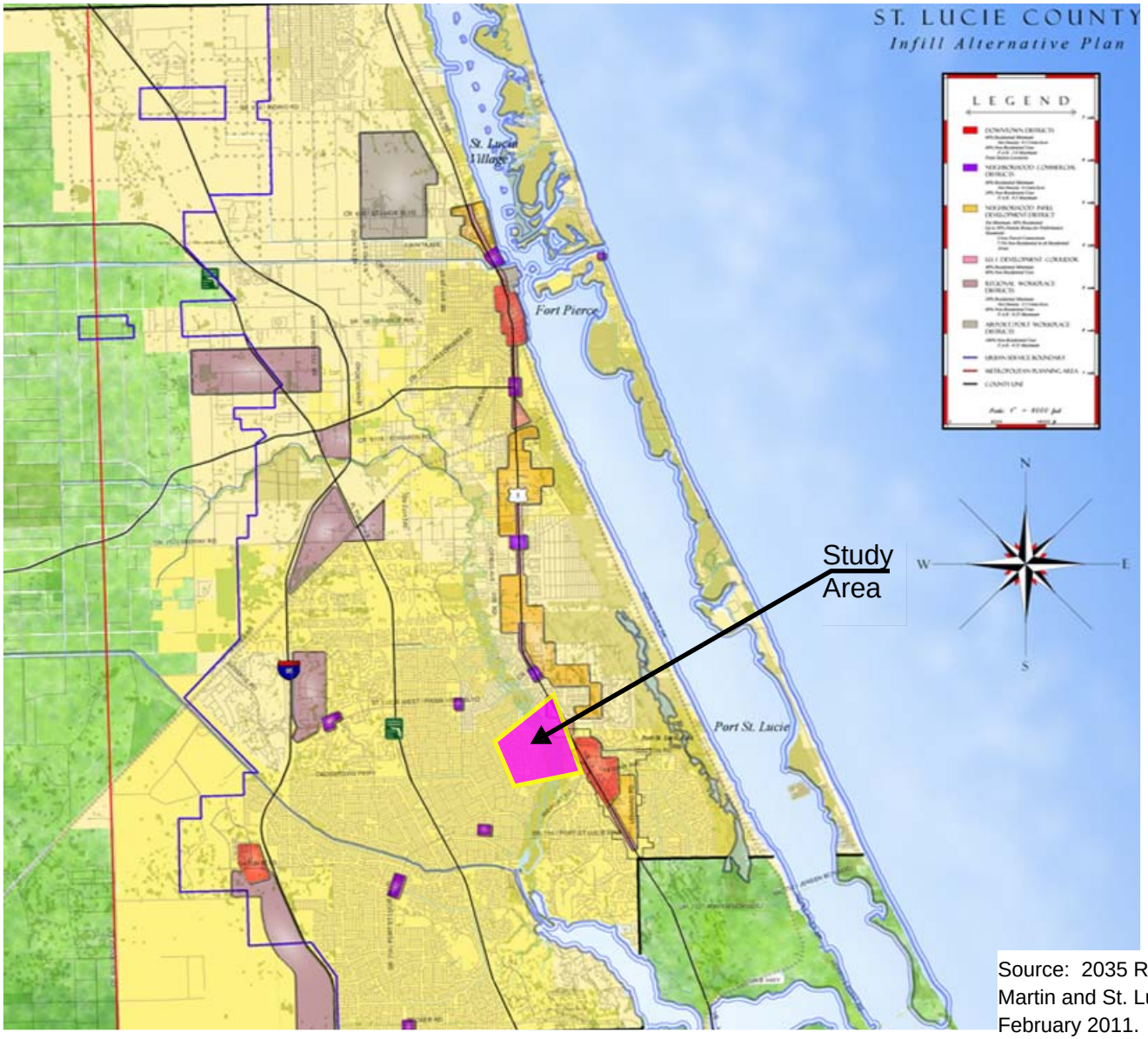
- In July 2008, an Agency Kick-off Meeting was held to provide an overview of the project, identify key issues in the study, and provide a forum to address agency concerns and issues [Section 8.0 (Comments and Coordination)];
- In September 2008, a formal Scoping Meeting was held that included representatives from each participating/cooperating agency. The purpose of the meeting was to provide an overview of the project, facilitate the scoping process, identify project issues, provide information resources, and discuss analytical techniques and methods to aid in problem solving [Section 8.0 (Comments and Coordination)];
- In June 2009, an Alternatives Public Workshop was held in which 157 individuals attended. The purpose of the meeting was to provide information on the project's purpose and need, status, and comparative analysis; provide the public with an update and overview of the project; solicit input from the public on the alternatives being considered, including the No Build Alternative; facilitate an open line of communication with the public throughout the PD&E process; and explain to the public the various ways to provide their input; and
- In September 2011, a Public Hearing was held and attended by approximately 400 individuals. The purpose of the Public Hearing was to elicit public comment and opinion with regard to the project. The Public Hearing provided interested persons an opportunity to express their views concerning the location, conceptual design, and social, economic, and environmental effects of the proposed improvements.

2.1.4 Social Demands or Economic Development

Per the *PD&E Manual*, social demands or economic development refers to the social and economic traffic generators which exert travel demands on the transportation facility. This includes businesses, neighborhoods, land use plans, recreational facilities, shopping centers, new developments, and any other type of social or economic anomaly which could increase travel demands.

Similar to the transportation demands discussed previously, the social and economic demands placed upon the roadway network are a result of the considerable growth that has occurred in the City. This growth has added social and economic traffic generators which exert heavy travel demands upon the existing transportation network. The travel demands will increase commensurate with the City's projected growth.

As previously mentioned, by 2035, the City's population is projected to reach 225,400. The 2035 RLRTP population forecast for the County is over 460,000. This was based on the BEBR population projections for "medium" growth in St. Lucie County and does not fully take into consideration the approved development planned for the Western Annexation Area. The Western Annexation Area is located southwest of the study area and west of I-95. Over the next 20 years, the Western Annexation Area could add 30,000 homes and over 14,000,000 square feet of employment space as documented in the Western Annexation Traffic Study, dated January 2006 (**Figure 2.1**). If the growth potential of the Western Annexation Area is realized, the population may likely be greater than what has been forecasted. **Figure 2.5** depicts the existing and future regional employment centers in the area and their relation to the study area.



Source: 2035 Regional Long Range Transportation Plan; Martin and St. Lucie County Metropolitan Planning Organization; February 2011.

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Regional Employment Centers

Figure 2.5

The majority of the social and economic demands, which affect travel patterns within the study area originate from development growth that is outside of the study area. These approved developments include the following:

- St. Lucie West Development of Regional Impact (DRI) – Approved Buildout Date - 2013;
- The Reserve DRI – Approved Buildout Date - 2013;
- PGA Village DRI – Approved Buildout Date - 2023;
- Tradition DRI – Approved Buildout Date - 2035; and
- LTC Ranch DRI – Approved Buildout Date - 2020.

The approved Western Annexation Area developments include:

- Western Grove DRI – Approved Buildout Date - 2027;
- Riverland DRI – Approved Buildout Date - 2028;
- Southern Grove DRI – Approved Buildout Date - 2032; and
- Wilson Groves DRI – Approved Buildout Date - 2035.

In addition to the social and economic demands generated from development outside of the study area, the City has developed plans for a Community Redevelopment Area located along U.S. 1. This will add additional traffic generators that will exert demands upon the existing transportation network. In particular, the Community Redevelopment Area will draw additional traffic to the U.S. 1 corridor originating from points west of the NFSLR. Currently, the primary east-west connection between the Community Redevelopment Area and the rest of the City's population is along Port St. Lucie Boulevard. Based on the more refined operational analysis of 2037 No Build peak-hour conditions conducted as part of the DTTM, Port St. Lucie Boulevard was projected to operate at an arterial LOS E (below its adopted LOS standard of D), with some segments and intersections proposed to operate at LOS F as discussed in Section 3.2.4.1.1 [Traffic Considerations (No Build)]. This does not reflect the severe congestion anticipated west of Airoso Boulevard (outside the project area) which will limit the amount of traffic that can access Port St. Lucie Boulevard from the western parts of the City.

As growth continues within the City, the social and economic demands will increase the need for adequate transportation infrastructure (i.e., roads and bridges) to support the additional travel demands generated from the aforementioned developments as well as other development that may occur. Unfortunately, the social and economic demands placed upon the transportation infrastructure exceed the capacity of that infrastructure. Consequently, the ability of the existing roadway network, and in particular the existing NFSLR crossings, to accommodate the planned growth and provide sufficient connectivity between the residential and business communities east and west of the NFSLR is compromised. Additional roadway capacity is, therefore, needed to support the area's continuing social and economic growth. The Crosstown Parkway Extension would provide the needed capacity and connectivity between the approved developments west of I-95 and the urban core of the City.

2.1.5 Modal Relationships

The proposed Crosstown Parkway Extension would provide enhanced opportunities to improve modal interrelationships throughout the City and the County. The 2030 RLRTP included the initiation of the Port St. Lucie City Center Trolley Service and the establishment of several multimodal transportation hubs along U.S. 1 providing connectivity among Indian River, St. Lucie, and Martin Counties. The 2035 RLRTP built on this and identified the U.S. 1 corridor retrofit project to improve upon the transit service along U.S. 1.

Further, as shown in **Figure 2.6**, the 2035 RLRTP identifies the Crosstown Parkway as a transportation corridor that could accommodate a proposed bus route. The corridor's right of way can accommodate bus bays in the future, if necessary. To serve the residential areas while minimizing their operational impacts, bus bays could be strategically located by placing them outside intersection influence areas. The corridor will provide a direct and highly efficient link between I-95 and U.S. 1 for freight trucks and future express bus service. Bicycle and pedestrian facilities will be incorporated into the proposed project with any of the build alternatives [Section 5.3.1 (Pedestrian and Bicycle Facilities)].

2.2 Project Corridor Characteristics

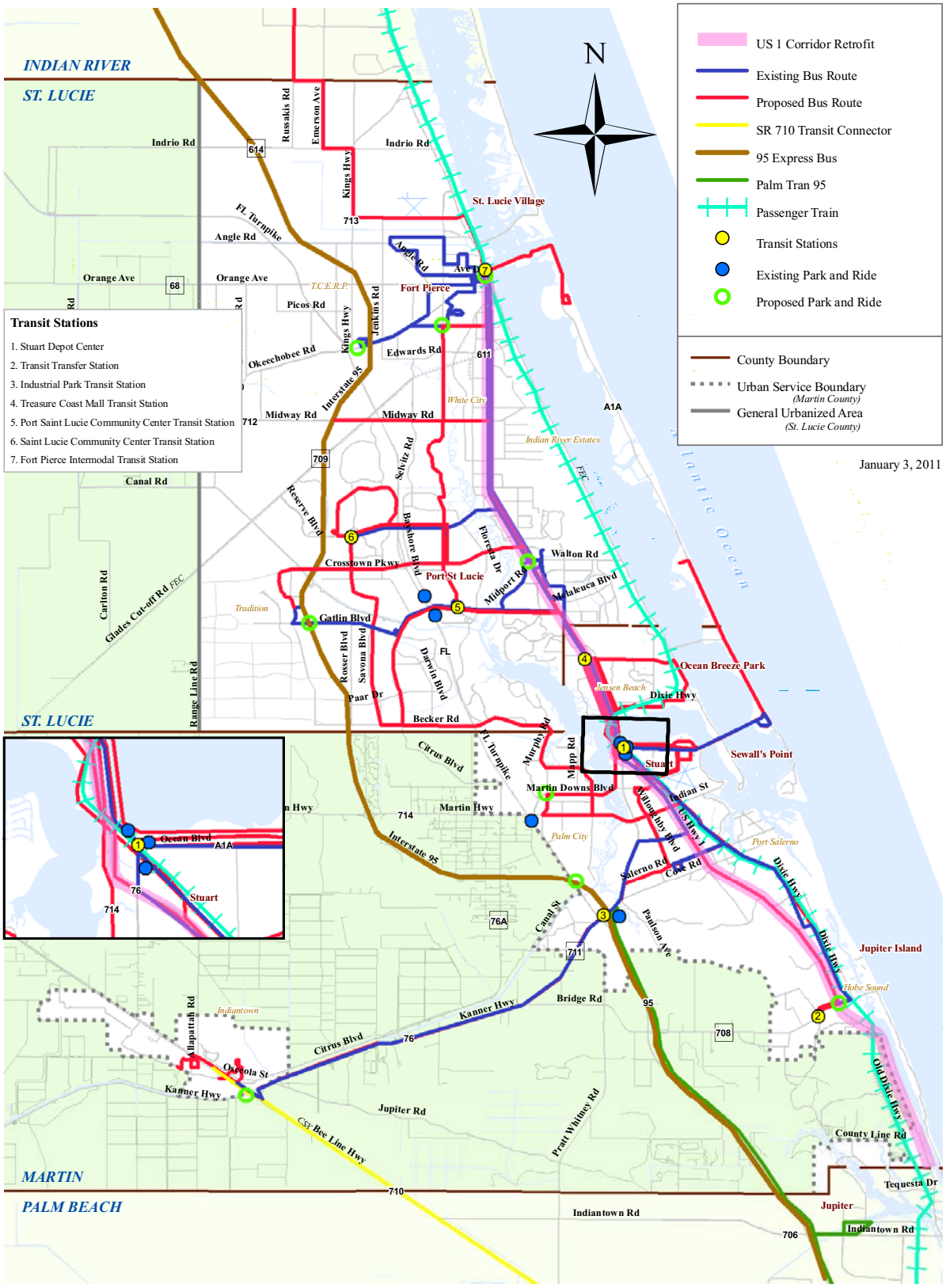
2.2.1 Capacity

This section provides an overview of the existing roadway characteristics and operating conditions within the study area.

2.2.1.1 Existing Roadway Characteristics

A description of the characteristics of the roadways in the study area is provided in **Table 2.2**. The table includes the number of lanes, facility type, jurisdiction, and adopted LOS associated with each of the roadways. The number of lanes of each roadway was obtained from field observations. Intersection geometry, storage lane lengths, and roadway speed limits were also collected from the field and are shown in **Figure 2.7**. The facility type, jurisdiction, and adopted LOS were obtained from the City Comprehensive Plan and the St. Lucie County 2008 Evaluation and Appraisal Report (EAR).

Operational analyses indicate that segments of Port St. Lucie Boulevard and Prima Vista Boulevard, between Bayshore Boulevard and U.S. 1, currently operate below the acceptable LOS during the AM and PM peak hours (typically the highest hour between 7:00 to 9:00 for the AM peak hour and 4:00 to 6:00 for the PM peak hour when commuters are traveling to and from work). For example, the LOS standards adopted in the City Comprehensive Plan for Port St. Lucie and Prima Vista Boulevards are D and E, respectively. However, based on detailed operational analysis of the peak-hour conditions conducted as part of the DTTM, segments of these two corridors are currently operating at LOS E and F, respectively. Furthermore, as discussed earlier the base (2008) year generalized daily analysis indicates that traffic currently exceeds the combined daily bridge capacity by 17 percent (based on FDOT Generalized LOS Tables). Similarly, the AM and PM peak-hour traffic exceeds the combined bridge capacity by 18 percent and 12 percent, respectively (based on FDOT Generalized LOS Tables) suggesting a transportation demand that exceeds the roadway's capacity during peak periods.



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Crosstown Parkway Extension PD&E Study and Environmental Impact Statement
Treasure Coast Regional Multimodal Transportation System

Figure 2.6

Table 2.2 Study Area Roadway Characteristics

Roadway From	To	Dir.	[1] Existing Facility	[2] Facility Type	[2] Jurisdiction	[3] Adopted LOS
Prima Vista Blvd						
West of Bayshore Blvd	Bayshore Blvd	EB/WB	6LD	UPA	City of PSL	E
Bayshore Blvd	Irving St	EB/WB	4LD	UPA	City of PSL	E
Irving St	Airoso Blvd	EB/WB	4LD	UPA	City of PSL	E
Airoso Blvd	Floresta Dr	EB/WB	4LD	UPA	City of PSL	E
Floresta Dr	Naranja Ave	EB/WB	4LD	UPA	City of PSL	E
Naranja Ave	Riomar Dr	EB/WB	4LD	UPA	City of PSL	E
Riomar Dr	U.S. 1	EB/WB	4LD	UPA	City of PSL	E
Crosstown Pkwy						
West of Bayshore Blvd	Bayshore Blvd	EB/WB	6LD	UMA	City of PSL	E
Bayshore Blvd	Airoso Blvd	EB/WB	6LD	UMA	City of PSL	E
Airoso Blvd	Sandia Dr	EB/WB	6LD	UMA	City of PSL	E
Sandia Dr	Floresta Dr	EB/WB	2LU	U-COLL	City of PSL	D
Floresta Dr	U.S. 1	EB/WB	DNE	---	---	---
Port St. Lucie Blvd						
West of Bayshore Blvd	Bayshore Blvd	EB/WB	6LD	UPA	FDOT	D
Bayshore Blvd	Airoso Blvd	EB/WB	6LD	UPA	FDOT	D
Airoso Blvd	Floresta Dr	EB/WB	6LD	UPA	FDOT	D
Floresta Dr	Veterans Memorial Pkwy	EB/WB	6LD	UPA	FDOT	D
Veterans Memorial Pkwy	Morningside Blvd	EB/WB	6LD	UPA	FDOT	D
Morningside Blvd	Gowin Dr	EB/WB	6LD	UPA	FDOT	D
Gowin Dr	U.S. 1	EB/WB	6LD	UPA	FDOT	D
Savanna Club Blvd						
U.S. 1	East of U.S. 1	EB/WB	2LD	U-COLL	City of PSL	D
Village Green Dr						
U.S. 1	East of U.S. 1	EB/WB	4LD	U-COLL	City of PSL	D
Walton Rd/Veterans Memorial Pkwy						
East of U.S. 1	U.S. 1	EB/WB	4LD	UMA	City of PSL	D
U.S. 1	Lyngate Dr	NB/SB	4LD	UMA	City of PSL	D
Lyngate Dr	Port St. Lucie Blvd	NB/SB	4LD	UMA	City of PSL	D
Port St. Lucie Blvd	South of Port St. Lucie Blvd	NB/SB	4LD	U-COLL	City of PSL	D
Tiffany Ave/Lyngate Dr						
East of U.S. 1	U.S. 1	EB/WB	4LD	U-COLL	City of PSL	D
U.S. 1	Veterans Memorial Pkwy	EB/WB	2LD	U-COLL	City of PSL	D

DNE = DOES NOT EXIST UPA = URBAN PRINCIPAL ARTERIAL UMA = URBAN MINOR ARTERIAL U-COLL = URBAN COLLECTOR NB = NORTHBOUND SB = SOUTHBOUND WB = WESTBOUND EB = EASTBOUND LD = LANE DIVIDED LU = LANE URBAN FIHS = FLORIDA INTERSTATE HIGHWAY SYSTEM

[1] Existing number of lanes obtained through field survey by Keith and Schnars, P.A.

[2] Facility type and jurisdiction obtained from the City Comprehensive Plan and St. Lucie County 2008 EAR.

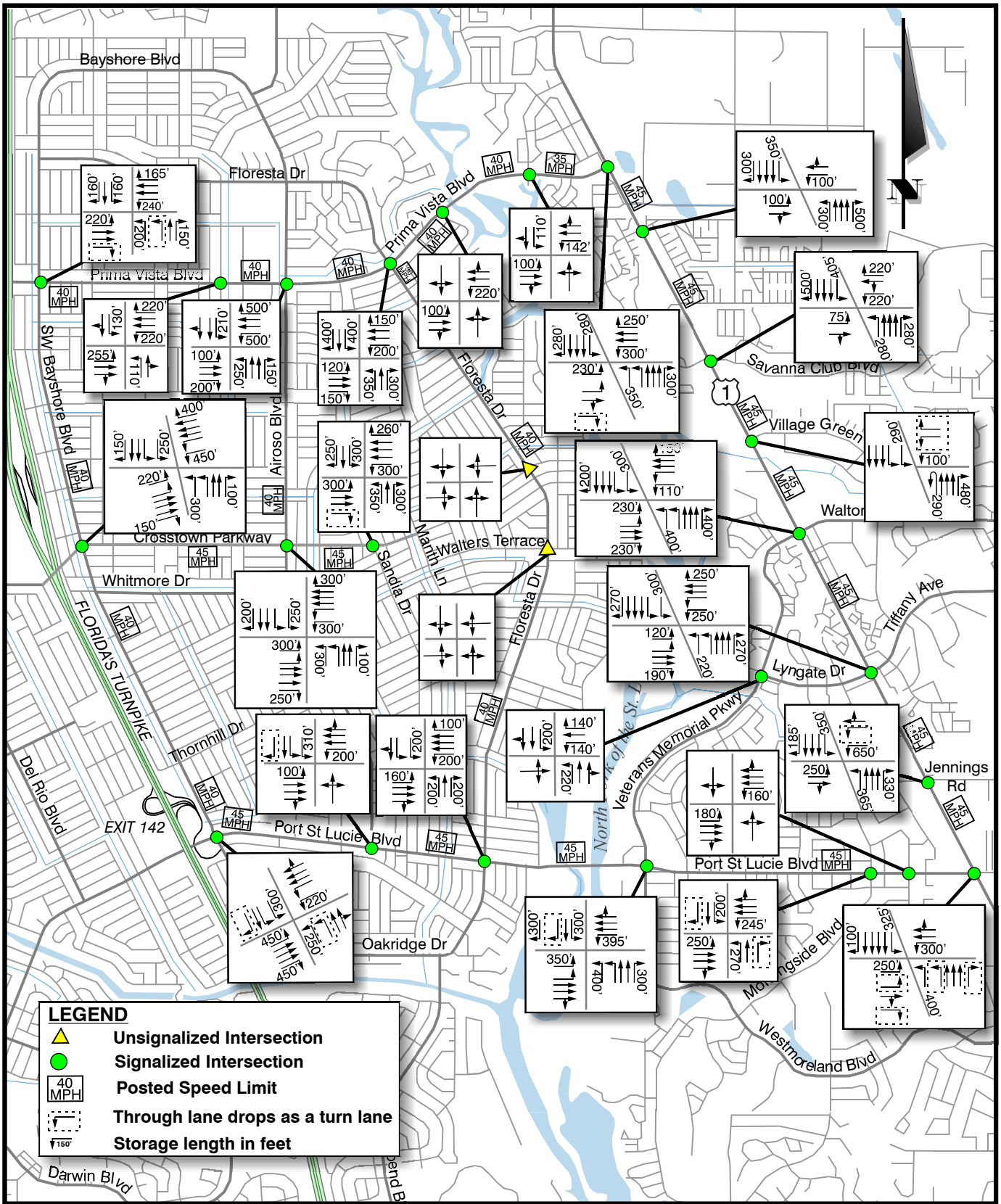
[3] Adopted Level of Service (LOS) obtained from the City Comprehensive Plan and St. Lucie County 2008 EAR.

Table 2.2 Study Area Roadway Characteristics (Continued)

Roadway From	To	Dir.	[1] Existing Facility	[2] Facility Type	[2] Jurisdiction	[3] Adopted LOS
Bayshore Blvd						
North of Prima Vista Blvd	Prima Vista Blvd	NB/SB	2LU	UMA	City of PSL	E
Prima Vista Blvd	Crosstown Pkwy	NB/SB	4LD	UMA	City of PSL	E
Crosstown Pkwy	Port St. Lucie Blvd	NB/SB	4LD	UMA	City of PSL	E
Port St. Lucie Blvd	Turnpike Ramps	NB/SB	4LD	UMA	City of PSL	E
Turnpike Ramps	South of Turnpike Ramps	NB/SB	2LU	U-COLL	City of PSL	D
Airoso Blvd						
North of Prima Vista Blvd	Prima Vista Blvd	NB/SB	4LD	UPA	City of PSL	E
Prima Vista Blvd	Crosstown Pkwy	NB/SB	4LD	UPA	City of PSL	E
Crosstown Pkwy	Port St. Lucie Blvd	NB/SB	4LD	UPA	City of PSL	E
Sandia Dr						
North of Crosstown Pkwy	Crosstown Pkwy	NB/SB	2LU	U-COLL	City of PSL	D
Crosstown Pkwy	South of Crosstown Pkwy	NB/SB	2LU	U-COLL	City of PSL	D
Floresta Dr						
North of Prima Vista Blvd	Prima Vista Blvd	NB/SB	2LU	UMA	City of PSL	E
Prima Vista Blvd	Crosstown Pkwy	NB/SB	2LU	UMA	City of PSL	E
Crosstown Pkwy	Port St. Lucie Blvd	NB/SB	2LU	U-COLL	City of PSL	D
Port St. Lucie Blvd	South of Port St. Lucie Blvd	NB/SB	2LU	U-COLL	City of PSL	D
U.S. 1						
North of Prima Vista Blvd	Prima Vista Blvd	NB/SB	6LD	UPA	FDOT	D
Prima Vista Blvd	Los Lagos Rd	NB/SB	6LD	UPA	FDOT	D
Los Lagos Rd	La Buona Vita Dr/Savanna Club Blvd	NB/SB	6LD	UPA	FDOT	D
La Buona Vita Dr/Savanna Club Blvd	Village Green Dr	NB/SB	6LD	UPA	FDOT	D
Village Green Dr	Veterans Memorial Pkwy	NB/SB	6LD	UPA	FDOT	D
Veterans Memorial Pkwy	Lyngate Dr/Tiffany Ave	NB/SB	6LD	UPA	FDOT	D
Lyngate Dr/Tiffany Ave	Jennings Rd	NB/SB	6LD	UPA	FDOT	D
Jennings Rd	Port St. Lucie Blvd	NB/SB	6LD	UPA	FDOT	D
Port St. Lucie Blvd	South of Port St. Lucie Blvd	NB/SB	8LD	UPA	FDOT	D

DNE = DOES NOT EXIST UPA = URBAN PRINCIPAL ARTERIAL UMA = URBAN MINOR ARTERIAL U-COLL = URBAN COLLECTOR NB = NORTHBOUND
SB = SOUTHBOUND WB = WESTBOUND EB = EASTBOUND LD = LANE DIVIDED LU = LANE URBAN FIHS = FLORIDA INTERSTATE HIGHWAY SYSTEM

[1] Existing number of lanes obtained through field survey by Keith and Schnars, P.A.
[2] Facility type and jurisdiction obtained from the City Comprehensive Plan and St. Lucie County 2008 EAR.
[3] Adopted Level of Service (LOS) obtained from the City Comprehensive Plan and St. Lucie County 2008 EAR.



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Year 2008 Existing Intersection Geometry

Figure 2.7

Detailed arterial operational analyses were also conducted for Prima Vista Boulevard and Port St. Lucie Boulevard across their entire lengths between Airoso Boulevard (a key north-south arterial west of the project limits) and U.S. 1. Arterial analysis bases its LOS determination on the average travel speed across the entire length of a roadway segment analyzed, so that good segments are averaged in with bad segments to determine a final average LOS. The results of this analysis indicate that the peak-hour arterial LOS for Prima Vista Boulevard is currently LOS D for both the AM and PM peak hours between those limits. However, there are individual intersection approaches that are operating at LOS E and LOS F and a section that operates at LOS E. Port St. Lucie Boulevard between Airoso Boulevard and U.S. 1 operates at an arterial LOS C during the AM and PM peak hours when averaged over the whole length, but also has intersections and sections which operate at LOS E or F. Lastly, the base (2008) year system performance measure based on CORSIM[2] indicates 28.62 miles per hour (mph) average speed and 0.83 minutes per mile (min/mi) of delay in the AM peak hour and 26.34 mph and 1.02 min/mi in the PM peak hour. **Figures 2.8** and **2.9** summarize the intersection and arterial LOS for the AM and PM peak hours, respectively.

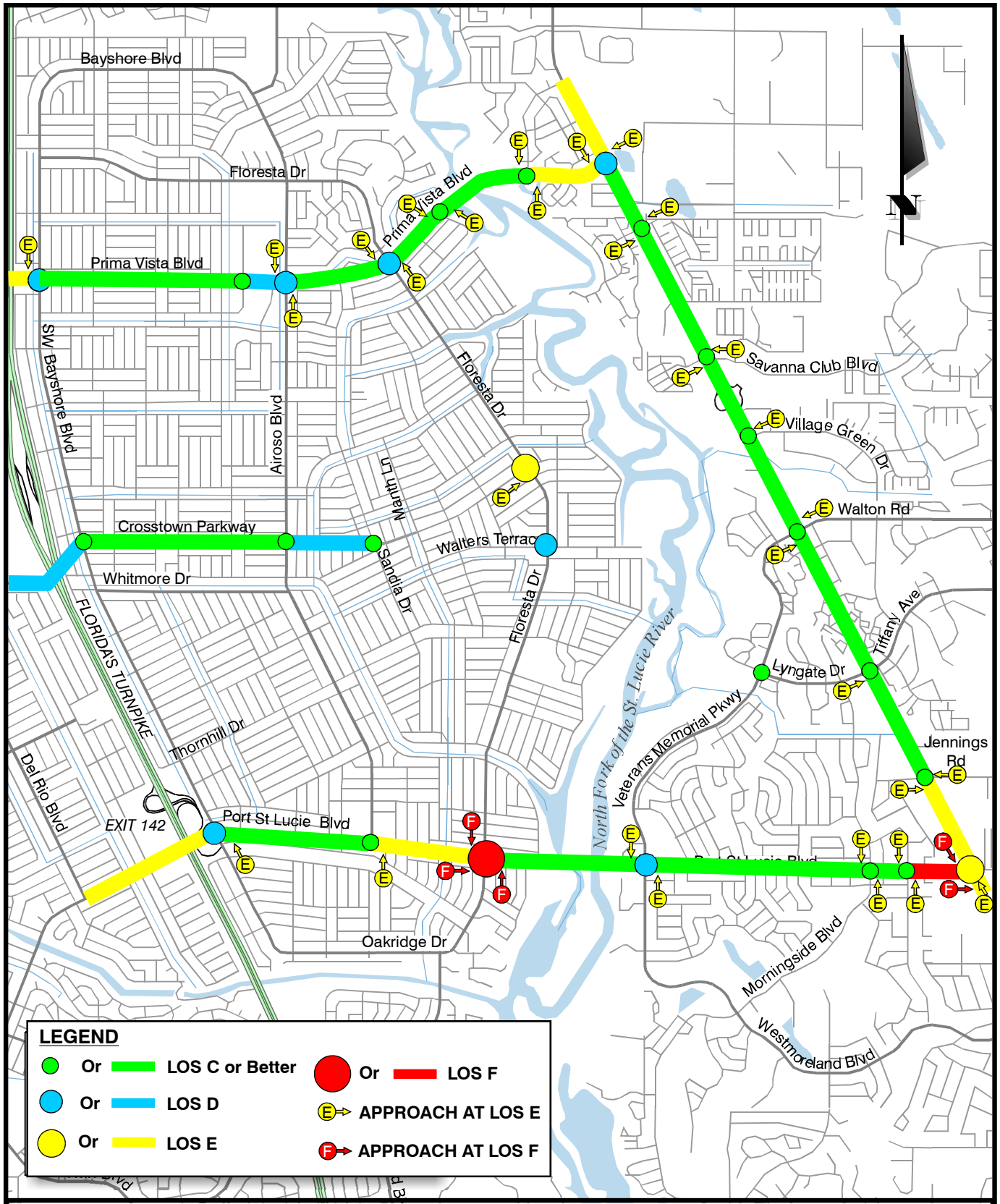
If no improvement is provided, the LOS at the river crossings will continue to degrade as the City's planned growth continues. Transportation demand forecasts obtained from the DTTM for the proposed project indicate that the combined traffic volume crossing the NFSLR is projected to increase from 104,680 vehicles in 2008 to about 156,000 in 2037, an increase of over 48 percent, exceeding the existing combined bridge capacity (89,200) by 74 percent. The DTTM for this project provides a detailed discussion on the existing and proposed operating conditions of the roadways in the study area.

2.2.2 Safety

Five years of crash data in the study area were gathered from FDOT and the City. The data collected include the number and type of crashes, crash locations, number of fatalities and injuries, and estimated property damage and economic loss. **Figure 2.10** summarizes the crash activity within the study area. Based upon the crash data collected, there are no evident specific crash patterns that could be remedied by this project. An expanded presentation of the crash data information collected for this project can be found in Appendix VIII of the DTTM.

While no specific crash-related safety concerns are addressed by this project, the project will improve traffic circulation in the area, and reduce congestion along the parallel corridors and the overall roadway system serving the City. By reducing congestion, there is a potential to improve safety based on the reduction in conflicts associated with oversaturated roadway conditions. The existing Crosstown Parkway facility is designed with wide medians and shoulders or bicycle lanes and curb and gutter, a limited number of signalized intersections, and no commercial or residential driveways minimizing conflicts between cars and trucks by reducing the frequency of stops and related acceleration and deceleration maneuvers. Maintaining similar operating speeds between cars and heavy vehicles will improve traffic flow, increases the corridor capacity, and has the potential to enhance safety. Heavy vehicles diverted from Port St. Lucie Boulevard and Prima Vista Boulevard will also reduce traffic conflicts and improve the safety on these two parallel corridors.

[2] CORSIM, short for CORridor SIMulation, is a standard traffic simulation modeling package that is used for visualizing complex traffic situations.



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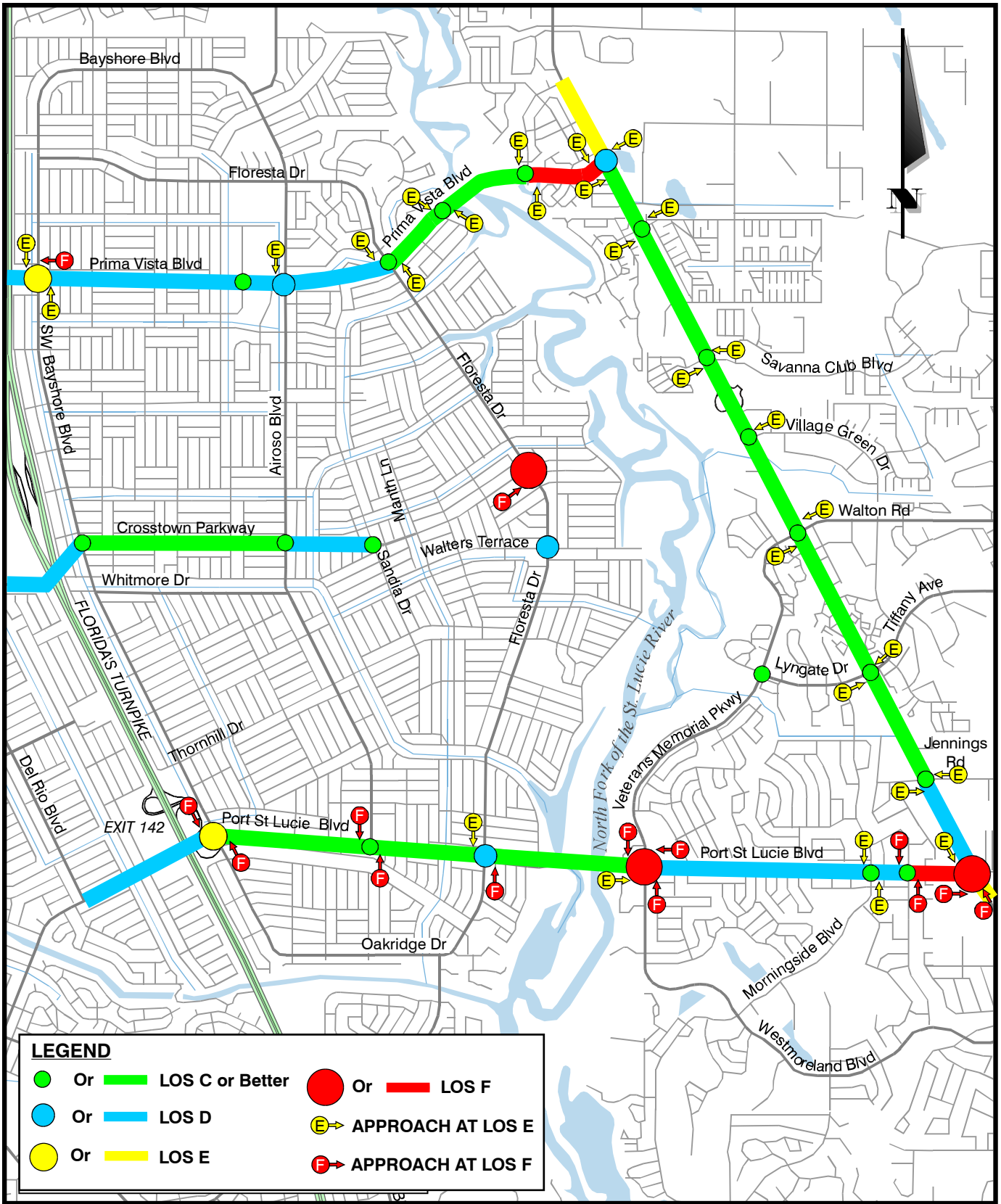
2008 AM Peak Hour Intersection and Arterial Level of Service

Figure 2.8



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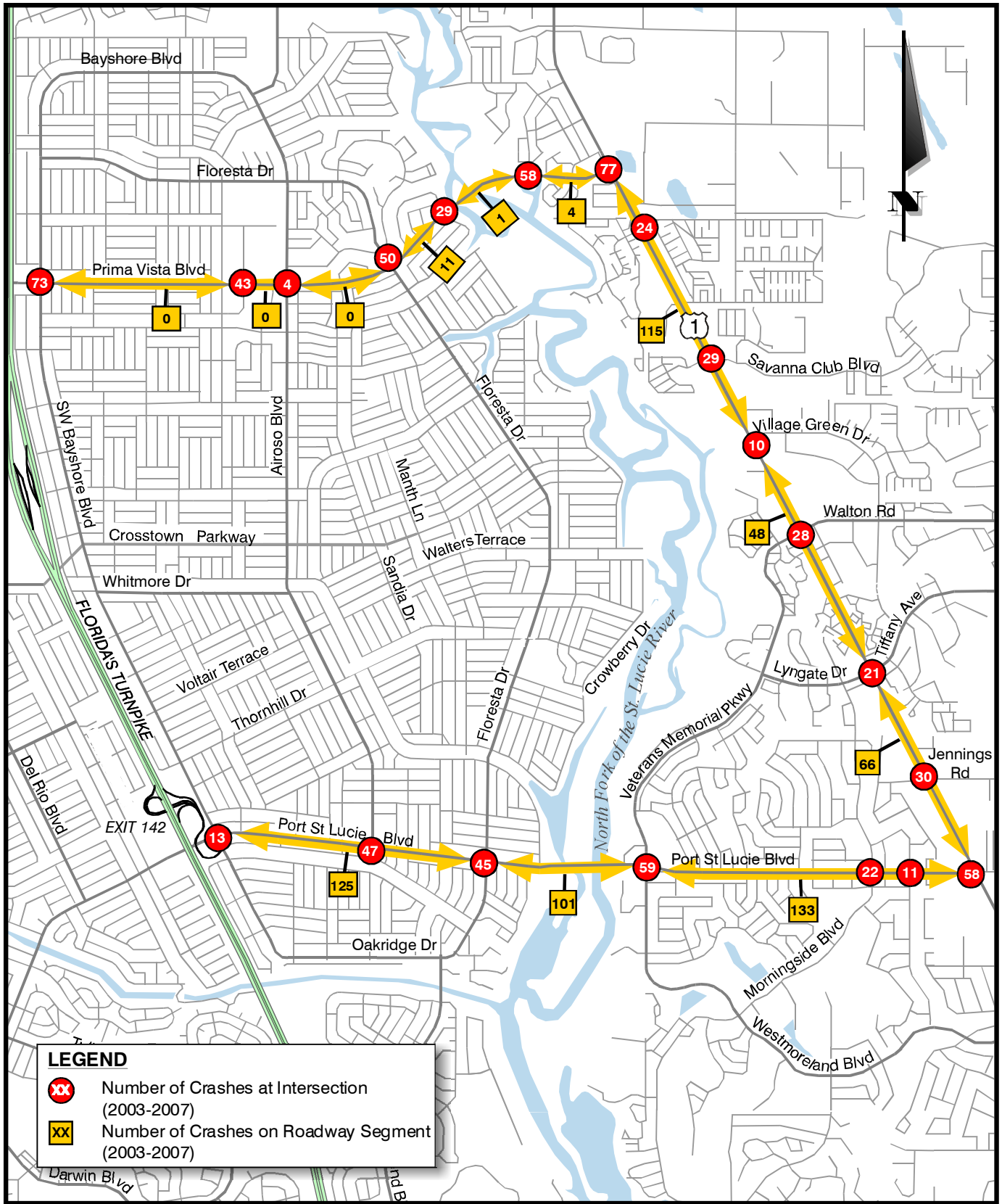
2008 PM Peak Hour Intersection and Arterial Level of Service

Figure 2.9



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Crash Data Summary

Figure 2.10

The Preferred Alternative will provide signalized cross streets for pedestrians and bicyclists to safely access either side of the parkway. The Preferred Alternative will also be designed with designated bicycle lanes and a green space with a pedestrian pathway as part of the transportation corridor to safely accommodate bicyclists and pedestrians. The City has determined that all build alternatives are consistent with the City Comprehensive Plan, the St. Lucie County Bicycle, Pedestrian, Greenways and Trails Master Plan, and the direction and intent of the City's Land Development Regulations and policies of the Comprehensive Plan (**Appendix A**).

The adopted (7-15-09) Transportation Element of the City Comprehensive Plan addresses the need for efficient emergency evacuation. Since the coastal areas of Florida are prone to hurricane landfalls from June through November, evacuations could be needed as a result of an approaching hurricane. In addition to the need for hurricane evacuation, there is the potential need for emergency evacuation associated with the St. Lucie Nuclear Power Plant (also known as the Hutchinson Island Nuclear Power Plant). The plant, operated by Florida Power & Light (FPL), is located approximately 4.5 miles east of the study area on Hutchinson Island. If a hurricane threatens the area or a nuclear accident occurs at the power plant, prompt and efficient evacuation may be necessary to ensure public safety.

The City Comprehensive Plan identifies the critical emergency evacuation links in the coastal planning areas of the City as Indian River Drive/Walton Road, Port St. Lucie Boulevard, Prima Vista Boulevard, and the existing section of the Crosstown Parkway (**Figure 2.2)**. Port St. Lucie Boulevard and Prima Vista Boulevard provide the only east-west crossings of the NFSLR within the City to effectuate an evacuation. In addition to physical improvements to existing evacuation routes, the City Comprehensive Plan states that, "other means the City could pursue to reduce evacuation times include the development of additional roadways and bridges over the North Fork and Indian Rivers."

Development of one or more of the east-west corridors and river crossings will provide additional east-west thoroughfares and reduce evacuating traffic on existing east-west thoroughfares. The Preferred Alternative is consistent with the City Comprehensive Plan with respect to emergency evacuation. The project will provide an additional NFSLR crossing for emergency evacuation. Also, the project will improve emergency evacuation along the existing NFSLR crossings (Prima Vista and Port St. Lucie Boulevards) by reducing the volume of vehicles, which improves the efficiency of their traffic carrying capacity. Furthermore, the project will create a continuous east-west evacuation thoroughfare between I-95 to the west, and U.S. 1 to the east.

The St. Lucie Medical Center is the main hospital in the City, and is located east of the intersection of U.S. 1 and Tiffany Avenue/Lyngate Drive directly east of the project study area. By 2037, travel time to the St. Lucie Medical Center was estimated to increase significantly in the No Build Alternative as compared to the Base (2008) year (ranging from an 8 to 40 percent increase in travel time depending on the path and the peak period). The Preferred Alternative will improve the emergency response time as compared to the No Build Alternative.

2.3 Summary of Why This Project Is Needed

The project is needed to address the existing traffic congestion within the City across the NFSLR and to prevent severe congestion in the future. Currently, only two bridges within the City cross the NFSLR (Port St. Lucie Boulevard and Prima Vista Boulevard). These bridges provide a vital link between the communities west and east of the river. They are also the only means of east-west emergency evacuation of residents east of the NFSLR. The analysis contained in this Environmental Impact Statement shows that, based on generalized LOS analyses, the existing traffic crossing the NFSLR exceeds the capacity of the two existing bridges. Even with widening the existing two bridges combined with Transportation Systems Management and Multimodal Alternatives, both bridges would continue to operate beyond their projected traffic-carrying capacity [Section 3.2.3.4.1 (Widening of Existing Bridges – Additional Analysis)]. In addition, some intersections and segments operate below acceptable levels at critical times of the day. Without the project, the level of traffic congestion is projected to worsen as the population grows. Consequently, it is anticipated that mobility along the existing corridors would continue to degrade. While not the primary purpose for the project, the project would also benefit public safety by providing an additional evacuation route across the NFSLR.